

Dr. Ryan J. Giordano

CONTACT INFORMATION	1515 Grant St. Berkeley, CA, 94703 USA	✉ rgiordan@mit.edu 🌐 rgiordan.github.io ☎ (805) 501-6754
EDUCATION	Massachusetts Institute of Technology , Cambridge, MA USA <i>Department of EECS, Computer Science & Artificial Intelligence Lab</i> Postdoctoral Research Fellow. Advisor: Tamara Broderick	2019–present
	University of California Berkeley , CA USA Ph.D., Statistics. Advisors: M. I. Jordan, J. McAuliffe, T. Broderick Thesis: <i>On the Local Sensitivity of M-Estimation: Bayesian and Frequentist Applications</i>	2013–2019
	London School of Economics , London, UK MSc., Econometrics.	2006–2008
	University of Illinois Urbana-Champaign , IL, USA BA., Mathematics. BS., Theoretical and Applied Mechanics.	1997–2002
PROFESSIONAL EXPERIENCE	Google Inc. , Mountain View, CA USA Senior Engineer, Quantitative Analysis	2009–2013
	Macquarie Group , London, UK Risk Management Intern	2008
	United States Peace Corps , Kokshetau, KZ Education Volunteer, successful completion of service	2004–2006
	Hewlett-Packard , Boise, ID Lifetest Coordinator and Reliability Engineer	2002–2004
HONORS AND AWARDS	Notable Paper Award, Artificial Intelligence and Statistics (AISTATS) (2019) Travel Award, Artificial Intelligence and Statistics (AISTATS) (2019) Travel Award, Bayesian Nonparametrics Conference (2019) Student Paper Award, ASA Section on Bayesian Statistical Science (2018) Travel Award, International Society for Bayesian Analysis (ISBA) (2018) Berkeley Institute for Data Science Fellow (2017–19) Junior Travel Support Grant, International Society for Bayesian Analysis (ISBA) Bayes Comp (2016) Spotlight Paper, Neural Information Processing Systems (NeurIPS) (2015) Outstanding Graduate Student Instructor Award (2015) Travel Award, Neural Information Processing Systems Workshop on Variational Inference (2014) Hertz Foundation Graduate Fellowship Finalist (2014) Google Operating Committee Award (2010) Advanced-high speaker of Russian in Peace Corps Aptitude Test (2006) Advanced-mid speaker of Kazakh in Peace Corps Aptitude Test (2006) Selected as a Peace Corps “Success Story” for a congressional report (2005) Best Project, Undergraduate Mechanics Research Conference (2002) Best Presentation, Undergraduate Mechanics Research Conference (2002) Seely, Sinclair, Stippes, TAM Merit Scholarships (1998–2002)	

PREPRINTS /
IN PREPARATION

M. Ingram*, **R. J. Giordano*** & T. Broderick (2021). Deterministic Automatic Differentiation Variational Inference.

★ = equal contribution first authors. In preparation.

R. J. Giordano & T. Broderick (2021). The Bayesian Infinitesimal Jackknife for Variance. In preparation.

T. Broderick, **R. J. Giordano***, R. Meager* & (2021). An Automatic Finite-Sample Robustness Metric: When Can Dropping a Little Data Make a Big Difference?

★ = equal contribution first authors (author order alphabetical). *arXiv:2011.14999 [stat.ME]*. [link]

R. J. Giordano, M. I. Jordan, & T. Broderick (2019). A Higher-Order Swiss Army Infinitesimal Jackknife. *arXiv:1907.12116 [stat.ME]*. [link]

UNDER REVIEW

R. J. Giordano*, R. Liu*, M. I. Jordan, & T. Broderick (2021). Evaluating Sensitivity to the Stick-Breaking Prior in Bayesian Nonparametrics.

★ = equal contribution first authors. *arXiv:2107.03584 [stat.ME]*. [link].

Submitted to Bayesian Analysis.

PUBLICATIONS

R. J. Giordano, W. Stephenson, R. Liu, M. I. Jordan, & T. Broderick (2019). A Swiss Army Infinitesimal Jackknife. *The 22nd International Conference on Artificial Intelligence and Statistics*. **Notable paper award**. [link]

R. J. Giordano, T. Broderick, & M. I. Jordan (2018). Covariances, Robustness, and Variational Bayes. In *Journal of Machine Learning Research*. [link]

J. Regier, K. Fischer, K. Pamnany, A. Noack, J. Revels, M. Lam, S. Howard, **R. J. Giordano**, D. Schlegel, J. McAuliffe, & R. Thomas (2019). Cataloging the Visible Universe Through Bayesian Inference in Julia at Petascale. In *Journal of Parallel and Distributed Computing*. [link]

J. Regier, K. Pamnany, K. Fischer, A. Noack, M. Lam, J. Revels, S. Howard, **R. J. Giordano**, D. Schlegel, J. McAuliffe, R. Thomas, & Prabhat (2018). Cataloging the Visible Universe Through Bayesian Inference at Petascale. In *IEEE International Parallel and Distributed Processing Symposium (IPDPS)*. IEEE, 2018. [link]

R. J. Giordano, T. Broderick, & M. I. Jordan (2015). Linear Response Methods for Accurate Covariance Estimates from Mean Field Variational Bayes. In *Advances in Neural Information Processing Systems*. **Spotlight presentation**. [link]

R. Winther, **R. J. Giordano**, M. D. Edge, & R. Nielsen (2015). The Mind, the Lab, and the Field: Three Kinds of Populations in Scientific Practice. In *Studies in History and Philosophy of Science Part C: Studies in History and Philosophy of Biological and Biomedical Sciences*. [link]

WORKSHOP
PAPERS

R. J. Giordano*, R. Liu*, M. I. Jordan, & T. Broderick (2018). Evaluating Sensitivity to the Stick Breaking Prior in Bayesian Nonparametrics. In *NeurIPS 2018 Bayesian Nonparametrics Workshop*.

★ = equal contribution first authors. [link]

R. J. Giordano*, R. Liu*, N. Varoquaux*, M. I. Jordan, & T. Broderick (2017). Measuring Cluster Stability for Bayesian Nonparametrics Using the Linear Bootstrap. In *NeurIPS 2017 Advances in Approximate Bayesian Inference Workshop*.

★ = equal contribution first authors. [link]

R. J. Giordano, T. Broderick, R. Meager, J. Huggins, & M. I. Jordan (2016). Fast Robustness Quantification with Variational Bayes. In *2016 ICML Workshop on #Data4Good: Machine Learning in Social Good Applications*. [link]

INVITED TALKS	New England Statistical Society (NESS) annual meeting Frequentist Covariances of Posterior Expectations with the Bayesian Infinitesimal Jackknife	Oct 2021
	Joint Statistical Meetings (JSM) An Automatic Finite-Sample Robustness Metric: Can Dropping a Little Data Change Conclusions?	Aug 2021
	International Society for Bayesian Analysis Annual Meeting Frequentist Covariances of Posterior Expectations with the Bayesian Infinitesimal Jackknife	June 2021
	ISBA-BNP series webinar (with Prof. Michael Jordan) Assessing Sensitivity to the Stick-Breaking Prior in Bayesian Nonparametrics	May 2021
	Harvard Graduate School of Education Miratrix CARES lab An Automatic Finite-Sample Robustness Metric: Can Dropping a Little Data Change Conclusions?	Feb 2021
	Splunk Statistics Seminar Series A Higher-Order Swiss Army Infinitesimal Jackknife	Oct 2019
	Google Statistics Journal Club On the Local Sensitivity of M-estimation: Bayesian and Frequentist Applications	Sep 2019
OTHER ACADEMIC TALKS	BAYSM Bayesian Young Statisticians Meeting Assessing Sensitivity to the Stick-Breaking Prior in Bayesian Nonparametrics	Aug 2021
	BAYSM Bayesian Young Statisticians Meeting Effortless Frequentist Covariances of Posterior Expectations in Stan	Nov 2020
	StanCon Effortless Frequentist Covariances of Posterior Expectations in Stan	July 2020
	Berkeley Statistics Student Seminar Series Sensitivity and Uncertainty in Variational Bayes with an Application to the EM Algorithm	April 2019
	12th International Conference on Bayesian Nonparametrics, Oxford, UK Evaluating Sensitivity to the Stick Breaking Prior in Bayesian Nonparametrics	June 2019
	Berkeley Institute for Data Science Lunchtime Seminar Series Sensitivity, Uncertainty, and Automatic Differentiation	Oct 2018
	Berkeley Institute for Data Science Lunchtime Seminar Series Bayesian Inference and Inverse Problems	July 2018
	StanCon Automatic Robustness Measures in Stan	Jan 2018
	Berkeley BSTARS Conference How Bad Could it Be? Worst-case Prior Sensitivity Estimates for Variational Bayes	March 2017
	Berkeley BSTARS Conference Measuring Robustness with Variational Bayes	March 2016
	Berkeley–Stanford Student Joint Colloquium Covariance Matrices for Mean Field Variational Bayes	Nov 2014
	Joint Statistical Meetings (JSM) Estimating Average Proportional Changes in Large, Sparse Data	Aug 2013

PROFESSIONAL
SERVICE

Student Leadership

University of California, Berkeley, Statistics Department

- Diversity Taskforce Member 2018–2019
- Graduate Student Mentor 2017–2019
- Diversity Committee Member 2017
- Co-organizer of the Gender and Diversity Roundtable 2016–2018
- Student Seminar Committee Member 2014–2017

University of Illinois, Urbana-Champaign, Engineering Mechanics Department

- President, Student Society for Experimental Mechanics 2000–2002
- Organizer, Free University Opera for Engineering Students 2001–2002

Journal Reviewing

- Bayesian Analysis
- Journal of Machine Learning Research

Conference Reviewing

- Advances in Neural Information Processing Systems (NeurIPS)
- International Conference on Machine Learning (ICML)
- International Conference on Artificial Intelligence and Statistics (AISTATS)
- Advances in Approximate Inference (NeurIPS-adjacent workshop)
- I Can't Believe It's Not Better (NeurIPS workshop)

TEACHING

University of California, Berkeley, USA

- Teaching Assistant, STAT215 Applied Statistics (Graduate-level) Fall 2014

Prison University Project, San Quentin State Prison, USA

- Volunteer math teacher Fall 2015, Spring 2016, Fall 2017

Kokshetau Elementary School #3, Kokshetau, Kazakhstan

- Elementary school teacher of mathematics and English as a second language 2004–2006

University of Illinois, Urbana-Champaign, USA

- Teaching Assistant, Mechanics of Materials Lab Fall 1999
- Teaching Assistant, Introduction to Statics Spring 1999